

In the Claims

1. (Original) A folded starved inverter differential output apparatus for use in a voltage controlled oscillator comprising:
 - a first polarity of two transistors cross-coupled;
 - a second polarity of four transistors;
 - two inverter gates; and
 - a supply regulator.
2. (Original) A folded starved inverter differential output apparatus of claim 1 wherein the second polarity of four transistors are connected to perform input and control functions.
3. (Original) A folded starved inverter differential output apparatus of claim 2 wherein first polarity can be positive or negative.
4. (Currently amended) A folded starved inverter differential output apparatus of claim 2 wherein the inverter gates provide linearity to ~~an output voltage~~ a gain of the voltage controlled oscillator.
5. (Original) A folded starved inverter differential output apparatus of claim 2 wherein the supply regulator reduces power supply fluctuations.
6. (Original) A folded starved inverter differential output apparatus of claim 5 wherein the first polarity of cross-coupled transistors is connected to provide a differential generating output voltage.
7. (Original) A folded starved inverter differential output apparatus comprising

two transistors cross-coupled to provide an output stage;

four transistors connected to provide a folded starved inverter circuit;

two inverter gates; and

a supply regulator; wherein the folded starved inverter differential output apparatus provides a fast slew rate, large voltage swing and symmetric output waveform.

8. (Original) A folded starved inverter differential output apparatus of claim 7 wherein the cross-coupled transistors provide a differential output.

9. (Original) A folded starved inverter differential output apparatus of claim 7 wherein the inverter gates provide linearity to ~~the output voltage~~ a gain of a voltage controlled oscillator.

10. (Original) A folded starved inverter differential output apparatus of claim 7 wherein the supply regulator reduces power supply fluctuations.

11. (Original) A folded starved inverter differential output apparatus of claim 7 wherein two of the four transistors provide an input connection.

12. (Original) A folded starved inverter differential output apparatus of claim 7 wherein two of the four transistors provide a current controlling function.

13. (Original) A receiver apparatus comprising:

a phase locked loop circuit including a voltage controlled oscillator used to generate a data sampling clock signal;

a data sampler to receive the data sampling clock signal; and

a folded starved inverter circuit contained within the voltage controlled oscillator.

14. (Original) A receiver apparatus of claim 13 wherein the folded starved inverter circuit provides a delay to an input signal.

15. (Original) A receiver apparatus of claim 14 wherein the folded starved inverter circuit contains two transistors cross-coupled to provide a differential output stage.

16. (Original) A receiver apparatus of claim 15 wherein the folded starved inverter circuit contains four transistors connected to provide a folded starved inverter circuit.

17. (Original) A receiver apparatus of claim 16 wherein two of the four transistors provide an input connection.

18. (Original) A receiver apparatus of claim 17 wherein two of the four transistors provide a current controlling function.

19. (Original) A receiver apparatus of claim 18 wherein the receiver further comprises a frequency comparator.

20. (Original) A receiver apparatus of claim 19 wherein the receiver samples received data at 3 times the frequency of the data signal.